

AMENDMENTS TO THE CLAIMS

The claims in this listing will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS

1. (Currently Amended) A pointing device comprising:

a light ~~emitting-means-for illuminating~~ emitter that illuminates a subject selected ~~from the group consisting~~ comprising one of a surface of a finger, a lattice, and any a perceivable pattern;

a hole through which light from the light ~~emitting-means~~ emitter is transmitted;

an image-acquisition area for taking an image of the subject from the transmitted light;

~~an image-formation-means-for forming an~~ image former that forms the image by focusing the light reflected from the image-acquisition area;

~~a conversion-means-for converting~~ converter that converts the image formed by the ~~image-formation-means~~ image former into an electric signal; and

~~an operation-means-for detecting the~~ operator that detects a change of the image and ~~calculating the~~ calculates an amount of the change using the electric signal output from the ~~conversion-means~~ converter; and

a contact sensor which surrounds the image-acquisition area and controls an on/off state of the light emitter or the converter based on whether the contact sensor is touched by a human body or an object.

2. (Currently Amended) A pointing device comprising:

a light ~~emitting means~~ emitter;

a light guide structure ~~for guiding that guides~~ light from the light ~~emitting means~~ emitter to a subject ~~selected from the group consisting~~ comprising one of a surface of a finger, a lattice, and ~~any~~ a perceivable pattern;

an image-acquisition area for taking an image of the subject from the guided light;

~~an image-formation means for forming an image former that forms the~~ image by focusing the light reflected from the image-acquisition area;

~~a conversion means for converting~~ converter that converts the image formed by the ~~image-formation means~~ image former into an electric signal; and

~~an operation means for detecting the~~ operator that detects a change of the image and ~~calculating the~~ calculates an amount of the change using the electric signal output from the ~~conversion means~~ converter; and

a contact sensor which surrounds the image-acquisition area and controls an on/off state of the light emitter or the converter based on whether the contact sensor is touched by a human body or an object.

3. (Currently Amended) The pointing device as defined by claim 1, wherein the light ~~emitting means is selected from the group consisting~~ emitter comprises one of a light emitting diode, a laser diode, and an organic electroluminescence.

4. (Currently Amended) The pointing device as defined by claim 3, wherein the light ~~emitting means~~ emitter comprises at least one light emitting diode.

5. (Currently Amended) The pointing device as defined by claim 1, wherein the ~~conversion means~~ converter is a CMOS image sensor or a CCD image sensor.

6. (Previously Presented) The pointing device as defined by claim 1, further comprising a selection button for selecting a target with a pointer moved by the pointing device or entering a command.

7. (Currently Amended) The pointing device as defined by claim 1, wherein the ~~image formation means is one selected from the group consisting~~ image former comprises one of a ~~spherical or non-spherical~~ lens and a ~~spherical or non-spherical~~ mirror.

8. (Currently Amended) A pointing device comprising:

a light ~~emitting means~~ emitter;

a light guide structure ~~for guiding~~ that guides light from the light ~~emitting means~~ emitter to a subject;

an image-acquisition area for taking an image of the subject from the guided light;

~~an image formation means for forming an~~ image former that forms the image by focusing ~~the~~ light reflected from the image-acquisition area;

a housing coupled to the ~~image formation means~~ image former;

~~a conversion means for converting~~ converter that converts the image formed by the ~~image formation means~~ image former into an electric signal;

a printed circuit board on which the ~~conversion means~~ converter is fixed;

a cover ~~for protecting that protects~~ the light emitting ~~means~~ emitter, the image-formation ~~means~~ image former, the housing, the ~~conversion means~~ converter, and the printed circuit board; and

~~an operation means for detecting the operator that detects a change of the image and calculating the~~ calculates an amount of the change using the electric signal output from the ~~conversion means converter; and~~

a contact sensor which surrounds the image-acquisition area and controls an on/off state of the light emitter or the converter based on whether the contact sensor is touched by a human body or an object.

9. (Currently Amended) The pointing device as defined by claim 8, wherein the subject is ~~one selected from the group consisting~~ comprises one of a surface of a finger, a lattice, and ~~any a~~ a perceivable pattern.

10. (Currently Amended) The pointing device as defined by claim 8, ~~further comprising a~~ wherein the contact sensor is for determining whether the pointing device is in use.

11. (Currently Amended) The pointing device as defined by claim 10, wherein the contact sensor is embodied ~~by means of~~ in a direct contact or non-contact fashion.

12. (Cancelled)

13. (Original) The pointing device as defined by claim 10, wherein the contact sensor is positioned around the image-acquisition area within a radius of about 3 cm from the center of the image acquisition area.

14. (Currently Amended) The pointing device as defined by claim 10, wherein the contact sensor operates ~~the pointing device~~ only for when a program requiring the pointing device is in use.

15. (Currently Amended) The pointing device as defined by claim 10, wherein the contact sensor performs the role of a selection switch for selecting ~~the~~ a present position ~~on~~ or a predetermined function indicated by a pointer.

16. (Currently Amended) The pointing device as defined by claim 15, wherein the role of the selection switch is performed according to ~~the change of a~~ time interval between contact and non-contact ~~to~~ with the contact sensor.

17. (Currently Amended) The pointing device as defined by claim 8, wherein the light guide structure, the ~~image-formation-means~~ image former, and the housing are united as an integral structure.

18. (Previously Presented) The pointing device as defined by claim 1, wherein the image-acquisition area is coated in order to prevent damage or contamination of the image-acquisition area.

19. (Currently Amended) The pointing device as defined by claim 1, wherein the ~~operation—means~~ operator receives the electric signal from the ~~conversation—means~~ converter and determines the distance and direction for a pointer to be moved by calculating the electric signal.

20. (Currently Amended) The pointing device as defined by claim 1, wherein the image-acquisition area is a transparent member or a virtual plane positioned at a predetermined distance from the ~~image-formation—means~~ image former.

21. (New) The pointing device as defined by claim 2, wherein the image former and the light guide structure are united as an integral structure.